217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

CTI Industries Corporation
Attn: Thomas Cohen
22160 North Pepper Road
Barrington, Illinois 60010

Application No.: 95090158
Applicant's Designation: PRINTING
Subject: Commercial Printing
Date Issued: May 10, 2005
Location: 22160 North Pepper Road, Barrington

I.D. No.: 097803AAB
Date Received: November 15, 2004

Expiration Date: May 10, 2010

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of two flexographic presses, plate making operation and two laminators/coaters, pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 25 tons/year for volatile organic material (VOM), 10 tons/year for any single HAP, and 25 tons/year for combination of HAPs). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.

b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

c. This permit supersedes all operating permits issued for this location.

2a. Emissions of volatile organic material (VOM) and operation of the 2 flexographic presses and plate making operation shall not exceed the following limits:

Equipment	Material	Usage (Per Mo)	Usage (Per/Yr)	VOM Content	VOM Emissions (Lb/Mo)	VOM Emissions (T/Yr)
Plate Making	Washout	75 gal	750 gal	6.9 lb/gal	520	2.6
2 Flexographic Presses	Water-Based Ink	30,000 lb	300,000 lb	6% by wt.	1,800	9.0
	Solvent Ink	3,000 lb	30,000 lb	25% by wt.	760	3.8
	Clean-Up	2,250 lb	22,500 lb	100% by wt.	1,140	5.7
				Totals:	4,220	21.10

These limits define the potential emissions of VOM and are based on maximum material usage, maximum VOM content, and 50 percent retention of the clean up solutions in rags that are sent off site. Compliance with annual limits shall be determined from a running total of 12 months of data.

b. Emissions and operation of natural gas combustion units shall not exceed the following limits:

Process	Natural Gas Usage (mmscf/Mo)	Natural Gas Usage (mmscf/Yr)	Pollutant	Emission Factor (Lb/mmscf)	Emissions (T/Mo)	Emissions (T/Yr)
Natural Gas Combustion	4	40	NO_x	100	0.20	2.00
			CO	84	0.17	1.68
			PM	7.6	0.02	0.15
			VOM	5.5	0.01	0.11

These limits are based on standard AP-42 emission factors and the information provided in the permit application. Compliance with annual limits shall be determined from a running total of 12 months of data.

3. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.

4. This permit is issued based on negligible emissions of particulate matter (PM) from the two laminators/coaters. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year per unit.

5. This permit is issued based on the two laminators/coater using materials that do not contain any volatile organic material.

6. The Permittee must comply with the following emission limitations and control requirements for all flexographic printing presses, pursuant to 35 Ill. Adm. Code 218.401(b):

   a. The weighted average VOM content of the coating and ink (minus water and any compounds which are specifically exempted from the definition of VOM) shall not exceed 40.0 percent, by volume. The following equation shall be used to determine if the weighted average VOM content of all coatings and inks as applied each day on the subject printing line exceeds the limitation specified in subsection (a)(1) of this section.

$$VOM_{(i)(A)} = \frac{\sum_{i=1}^{n} C_i L_i (V_{si} + V_{VOMi})}{\sum_{i=1}^{n} L_i (V_{si} + V_{VOMi})}$$

Where:

$VOM_{(i)(A)}$ = The weighted average VOM content in units of percent VOM by volume of all coatings and inks (minus water and any compounds which are specifically exempted from the definition of VOM) used each day

$_i$ = Subscript denoting a specific coating or ink as applied

n = The number of different coatings and/or inks as applied each day on a printing line

C_i = The VOM content in units of percent VOM by volume of each coating or ink as applied (minus water and any compounds which are specifically exempted from the definition of VOM)

L_i = The liquid volume of each coating or ink as applied in units of 1 (gal)

V_{si} = The volume fraction of solids in each coating or ink as applied

V_{VOMi} = The volume fraction of VOM in each coating or ink as applied

7. The Permittee shall collect and record the following information for each flexographic printing line, pursuant to 35 Ill. Adm. Code 218.404:

   a. Daily records of the name and identification of each ink, coating, and any other clean-up solvent as applied on each printing line;

   b. Daily records of the VOM content of each ink, coating, and any other cleanup solvent as applied on each printing line;

   c. Daily-weight average VOM content of all inks and coatings as applied on each printing line;

   d. Any record showing violation shall be reported by sending a copy of such record to the Illinois EPA within 30 days following the occurrence of the violation; and

   e. If changing its method of demonstrating compliance with the applicable VOM content limitations in 35 Ill. Adm. Code 218.401, or changing the method of demonstrating compliance with the VOM content limitations for fountain solutions pursuant to 35 Ill. Adm. Code 218.401. Certify compliance for such new method(s) in accordance with 35 Ill. Adm. Code 218.404(d) within 30 days after making such change, and perform all tests and calculations necessary to demonstrate that such printing line(s) will be in compliance with the applicable requirements of 35 Ill. Adm. Code 218.401.

8. The Permittee shall maintain monthly records of the following items:

   a. Amount of each ink, coating, wash-up solvent, and clean-up solvent used in the laminator/coater, plate making operation, and printing lines (lb or gal/month and gal or tons/year);

   b. VOM content of each ink, coating, wash-up solvent, and clean-up solvent used in the laminator/coater, plate making operation, and printing lines (percent weight of VOM or lb VOM/gal); and

   c. VOM emissions from the plate making operation and printing lines (lb/month and tons/year).

9. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

10. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.

11. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

It should be noted that this permit has been revised to remove two corona arc treaters which are replaced with six corona arc treaters equipped with ozone destruction, which are exempt from state permit requirements, pursuant to 35 Ill. Adm. Code 201.146(ddd).

If you have any questions on this, please call George Kennedy at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 1
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the commercial printing source operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, e.g., 25 tons/year for volatile organic material (VOM) and 10 tons/year for any single HAP and 25 tons/year for combination of HAPs at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

Process	VOM Emissions (Tons/Year)	PM Emissions (Tons/Year)	NO_x Emissions (Tons/Year)	CO Emissions (Tons/Year)
Plate Making	2.60			
2 Flexographic Presses				
Water-Based Ink	9.00			
Solvent Ink	3.80			
Clean-Up	5.70			
2 Laminators/Coaters		0.44		
Natural Gas	0.11	0.15	2.00	1.68
Total	21.21	0.59	2.00	1.68

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